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| 10/648,592 | 08/25/2003 | Mark Grayson | 50325-0750 | 4256 |
| 29989 | 7590 | 11/13/2007 | EXAMINER | |
| HICKMAN PALERMO TRUONG & BECKER, LLP | | | SONI, KETAN S | |
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | |
|------------------------------|-----------------|----------------|
| Office Action Summary | Application No. | Applicant(s) |
| | 10/648,592 | GRAYSON ET AL. |
| Examiner | Art Unit | |
| Ketan Soni | 2619 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 25 August 2003.
 2a) This action is FINAL. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-22 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) Claim(s) _____ is/are allowed.
 6) Claim(s) 1-22 is/are rejected.
 7) Claim(s) _____ is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on 25 August 2003 is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) Notice of References Cited (PTO-892)
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
 3) Information Disclosure Statement(s) (PTO/SB/08)
 Paper No(s)/Mail Date 11/24/03.

4) Interview Summary (PTO-413)
 Paper No(s)/Mail Date. _____.
 5) Notice of Informal Patent Application
 6) Other: _____.

DETAILED ACTION

Information Disclosure Statement

The information disclosure statement submitted on 11/24/2003 has been considered by the Examiner and made of record in the application file.

Claim Objections

- Claim: 4, 11 are objected because "AAA" needs to be spelled out.
- Claim: 18, line: 2 should be corrected. Corrected new line should read as "..Change of Authorizations ..".
- Appropriate action is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the Examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation

under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the Examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1, 2, 8, and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Golden et al. (US 6563793 B1) in view of Amin (US 6910074 B1).

Consider **Claims: 1, and 8** Golden et al. discloses the process of managing a communications session with a device, where the communications session is established with the device that supports a first quality of service level (communication session with device 12 as a receiver, the path message as per QoS requirement reaches router 14, col: 4, lines: 24-25; Additionally Layer-2 Device supports traffic for forwarding between ports with different levels of priority, col: 3, lines: 58-60); receiving a request for a service associated with the device (requestor module included in router 14 for mapping, Fig: 2; and Bandwidth allocator maps required QoS into a particular traffic class that has a corresponding priority, col: 4, lines: 43-45). Golden discloses that bandwidth allocator is capable of mapping and changing QoS into a particular traffic class corresponding to certain priority and changes are made in Layer-2, (see col: 4, 43-50), and Bandwidth manager also maps the user priority (depending QoS) so changes in Layer-2 frames are made to accomplish required QoS, col: 4, lines: 45-50). Golden is generally silent about determining, based upon the request for the service and policy criteria, a second quality of service level to be supported by the communications session for the device; and modifying the communications session by

causing a layer-2 change in a communications link used for the communications session, so that the communications session for the device supports the second quality of service level.

In the same field of endeavor, Amin et al. discloses determining, based upon the request for the service and policy criteria, a second quality of service level to be supported by the communications session for the device (Fig: 16, Mobile Host can request a QoS modification, col: 24, lines: 19-20); and modifying the communications session (MH initiates dynamic QoS modification or change, col: 24, line: 31) by causing a layer-2 change in a communications link used for the communications session, so that the communications session for the device supports the second quality of service level (When the policy decision is made and returned to RAN, RAN enforces the policy decision as indicated, col: 24, lines: 48-50).

Therefore it would have been obvious to a person with ordinary skill in the art at the time the invention was made to incorporate and establish guaranteed on-demand QoS in a local or wide area network or across network with the method of Golden with the method disclosed by Amin for using QoS modification change request with policy manager. The motivation is to provide policy management role related to subscriber and network resources, AAA+ functions, and modification in QoS.

Consider **Claims: 2, and 9** and as applied to claim: 1, and 8 respectively, Golden et al as modified by Amin et al. discloses claim: 1. Further taught by combination and specifically by Amin, wherein: the request for the service is received from a layer-2 gateway (RAN sends the Policy Rqst changing message to policy manager, col: 24,

lines: 38-39, Additionally Dynamic provisioning of QoS allows original setting to the requested setting, col: 10, lines: 7-8); and causing a layer-2 change in a communications link used for the communications session (RAN sends policy request command, and than uses Layer-2 setup parameters for modification, col: 24, lines: 37-47), so that the communications session for the device supports the second quality of service level includes signaling the layer-2 gateway to change the communications session with the device to support the second quality of service level (When the policy decision is made and returned to RAN, RAN enforces the policy decision as indicated, col: 24, lines: 48-50).

Claims 3 - 7, 15 - 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Golden et al. (US 6563793 B1) in view of Amin (US 6910074 B1) and further in view of Madour et al. (US 2003/0214958 A1).

Consider **Claims: 3, and 10** and as applied to claim: 1, and 8 respectively, Golden et al as modified by Amin et al. discloses claim: 1. Further taught by combination and specifically by Amin, wherein causing a layer-2 change in a communications link used for the communications session (RAN sends policy request command, and than uses Layer-2 setup parameters for modification, col: 24, lines: 37-47; Additionally Dynamic provisioning of QoS allows original setting to the requested setting, col: 10, lines: 7-8), so that the communications session for the device supports the second quality of service level (When the policy decision is made and returned to RAN, RAN enforces the policy decision as indicated, col: 24, lines: 48-50). Even though

Amin discloses WAG provides RAN resources such as QoS modification (Col: 5, lines: 53-56), Amin is generally silent about including and causing the modification of session context data at a layer-2 gateway.

However in the same field of endeavor, Madour et al. discloses Access Gateway and modification of session context data at a layer-2 gateway (context is block of user session, and an Access Gateway for providing routing capabilities and AAA server for controlling signaling, col: 1, para [0006]).

Therefore it would have been obvious to a person with ordinary skill in the art at the time the invention was made to incorporate and establish guaranteed on-demand QoS in a local or wide area network or across network with the method of Golden with the method disclosed by Amin for using QoS modification change request with policy manager and using gateway for connecting AAA server as taught by Madour. The motivation is to provide policy management role related to subscriber and network resources, AAA+ functions, and modification in QoS.

Consider **Claims: 4, and 11** and as applied to claim: 1, and 8 respectively, Golden et al as modified by Amin et al. discloses claim: 1. Further taught by combination and specifically by Amin, wherein causing a layer-2 change in a communications link used for the communications session (RAN sends policy request command, and then uses Layer-2 setup parameters for modification, col: 24, lines: 37-47; Additionally Dynamic provisioning of QoS allows original setting to the requested setting, col: 10, lines: 7-8), so that the communications session for the device supports the second quality of service level (When the policy decision is made and returned to

RAN, RAN enforces the policy decision as indicated, col: 24, lines: 48-50). Additionally Madour discloses generating and sending to a layer-2 gateway an AAA Change of Authorization (CoA) Request command that specifies a quality of service profile for the second quality of service level (Change of Authorization (COA) message is sent from the H-AAA 212 (COA message 245) or from the L-AAA 212 (COA message 250) to the AGW 210, col: 6, para: [0042]).

Consider **Claims:** 5, and 12 and as applied to claim: 1, and 8 respectively, Golden et al as modified by Amin et al. discloses claim: 1. Further taught by combination and specifically by Golden, wherein the first and second quality of service levels each specifies an amount of bandwidth to be allocated to the device (Bandwidth allocator maps the required QoS into a particular traffic class that has a corresponding priority for that service, col: 4, lines: 42-45).

Consider **Claims:** 6, and 13 and as applied to claim: 1, and 8 respectively, Golden et al as modified by Amin et al. discloses claim: 1. Further taught by combination and specifically by Madour that the device is a wireless device (terminal 206 can be a mobile telephone or PDA, col: 6, para [36]).

Consider **Claims:** 7, and 14 and as applied to claim: 1, and 8 respectively, Golden et al as modified by Amin et al. discloses claim: 1. Further taught by combination and specifically by Amin wherein receiving, from a first application server, first quality of service data that specifies the second quality of service level (Service

session management function enables Appli. Service platforms and validates change in QoS (from one to another-second) policy rules, col: 7, lines: 23-26); receiving, from a second application server, second quality of service data that specifies a third quality of service level (Also service session management includes rules for the QoS based on service level agreement derived with different (second or third) network service provider and different application service platforms that allow to use network resources, col: 7, lines: 30-35); and modifying, based upon the first quality of service data and the second quality of service data (enforcing demands for change in QoS based on policy, col: 7, lines: 28-30), the communications session by causing a layer-2 change (Access interface can be Layer-2, col: 14, line: 57) in a communications link used for the communications session, so that the communications session for the device supports a quality of service level other than the first quality of service level (When the policy decision is made and returned to RAN, RAN enforces the policy decision as indicated, col: 24, lines: 48-50). In addition Golden also discloses (Bandwidth manager also maps the user priority (depending QoS) so changes in Layer-2 frames are made to accomplish required QoS, col: 4, lines: 45-50).

Consider **Claim: 15**, Golden et al. discloses managing a communications session with a device, and establishing, a communications session with the device, that supports a first quality of service level (communication session with device 12 as a receiver, the path message as per QoS requirement reaches router 14, col: 4, lines: 24-25; Additionally Layer-2 Device supports traffic for forwarding between ports with different levels of priority, col: 3, lines: 58-60); receiving a request for a service

associated with the device (requestor module included in router 14 for mapping, Fig: 2; and Bandwidth allocator maps required QoS into a particular traffic class that has a corresponding priority, col: 4, lines: 43-45). Golden discloses that bandwidth allocator is capable of mapping and changing QoS into a particular traffic class corresponding to certain priority and changes are made in Layer-2, (see col: 4, 43-50), Golden is generally silent about determining, based upon the request for the service and policy criteria, a second quality of service level to be supported by the communications session for the device; and means for modifying the communications session by causing a layer-2 change in a communications link used for the communications session, so that the communications session for the device supports the second quality of service level.

In the same field of endeavor, Amin et al. discloses determining, based upon the request for the service and policy criteria, a second quality of service level to be supported by the communications session for the device (Fig: 16, Mobile Host can request a QoS modification, col: 24, lines: 19-20); and modifying the communications session (MH initiates dynamic QoS modification or change, col: 24, line: 31) by causing a layer-2 change in a communications link used for the communications session, so that the communications session for the device supports the second quality of service level (When the policy decision is made and returned to RAN, RAN enforces the policy decision as indicated, col: 24, lines: 48-50).

Therefore it would have been obvious to a person with ordinary skill in the art at the time the invention was made to incorporate and establish guaranteed on-demand

QoS in a local or wide area network or across network with the method of Golden with the method disclosed by Amin for using QoS modification change request with policy manager. The motivation is to provide policy management role related to subscriber and network resources, AAA+ functions, and modification in QoS.

Consider **Claim: 16**, Golden et al as modified by Amin et al. discloses claim: 15. Further taught by combination and specifically by Amin, wherein: the request for the service is received from a layer-2 gateway (RAN sends the Policy Rqst changing message to policy manager, col: 24, lines: 38-39, Additionally Dynamic provisioning of QoS allows original setting to the requested setting, col: 10, lines: 7-8); and the apparatus further comprises means for causing a layer-2 change in a communications link used for the communications session (RAN sends policy request command, and than uses Layer-2 setup parameters for modification, col: 24, lines: 37-47), so that the communications session for the device supports the second quality of service level includes signaling the layer-2 gateway to change the communications session with the device to support the second quality of service level (When the policy decision is made and returned to RAN, RAN enforces the policy decision as indicated, col: 24, lines: 48-50).

Consider **Claim: 17**, and as applied to claim: 15, Golden et al as modified by Amin et al. discloses claim: 15. Further taught by combination and specifically by Amin, wherein causing a layer-2 change in a communications link used for the communications session (RAN sends policy request command, and than uses Layer-2 setup parameters for modification, col: 24, lines: 37-47; Additionally Dynamic

provisioning of QoS allows original setting to the requested setting, col: 10, lines: 7-8), so that the communications session for the device supports the second quality of service level (When the policy decision is made and returned to RAN, RAN enforces the policy decision as indicated, col: 24, lines: 48-50). Even though Amin discloses WAG provides RAN resources such as QoS modification (Col: 5, lines: 53-56), Amin is generally silent about including and causing the modification of session context data at a layer-2 gateway. However in the same field of endeavor, Madour et al. discloses Access Gateway and modification of session context data at a layer-2 gateway (context is block of user session, and an Access Gateway for providing routing capabilities and AAA server for controlling signaling, col: 1, para [0006]).

Consider Claim: 18, and as applied to claim: 15, Golden et al as modified by Amin et al. discloses claim: 15. Further taught by combination and specifically by Amin, wherein causing a layer-2 change in a communications link used for the communications session (RAN sends policy request command, and than uses Layer-2 setup parameters for modification, col: 24, lines: 37-47; Additionally Dynamic provisioning of QoS allows original setting to the requested setting, col: 10, lines: 7-8), so that the communications session for the device supports the second quality of service level (When the policy decision is made and returned to RAN, RAN enforces the policy decision as indicated, col: 24, lines: 48-50). Additionally Madour discloses generating and sending to a layer-2 gateway an AAA Change of Authorization (CoA) Request command that specifies a quality of service profile for the second quality of service level (Change of Authorization (COA) message is sent from the H-AAA 212

(COA message 245) or from the L-AAA 212 (COA message 250) to the AGW 210, col: 6, para: [0042]).

Consider **Claim: 19**, and as applied to claim: 15, Golden et al as modified by Amin et al. discloses claim: 15. Further taught by combination and specifically by Amin, wherein specifying the quality of service profile for the second quality of service level (service session management function coordinates to validate and enforce demands for change in QoS based on the policy rules, col: 7, lines: 27-29) using a vendor-specific attribute (service application servers can be supported by third party vendors, col: 14, lines: 4-6). In addition Madour discloses that this attribute containing in the 3rd Generation Partnership Project 3GPP-Negotiated-QoS attribute (In 3GPP2 network, subscriber can request or use IP application, col: 2, para [10]).

Consider **Claim: 20**, and as applied to claim: 15, Golden et al as modified by Amin et al. discloses claim: 15. Further taught by combination and specifically by Golden, wherein the first and second quality of service levels each specifies an amount of bandwidth to be allocated to the device (Bandwidth allocator maps the required QoS into a particular traffic class that has a corresponding priority for that service, col: 4, lines: 42-45).

Consider **Claim: 21**, and as applied to claim: 15, Golden et al as modified by Amin et al. discloses claim: 15. Further taught by combination and specifically by Madour that the device is a wireless device (terminal 206 can be a mobile telephone or PDA, col: 6, para [36]).

Consider **Claim: 22**, and as applied to claim: 15, Golden et al as modified by Amin et al. discloses claim: 15. Further taught by combination and specifically by Amin wherein receiving, from a first application server, first quality of service data that specifies the second quality of service level (Service session management function enables Appli. Service platforms and validates change in QoS (from one to another-second) policy rules, col: 7, lines: 23-26); receiving, from a second application server, second quality of service data that specifies a third quality of service level (Also service session management includes rules for the QoS based on service level agreement derived with different (second or third) network service provider and different application service platforms that allow to use network resources, col: 7, lines: 30-35); and modifying, based upon the first quality of service data and the second quality of service data (enforcing demands for change in QoS based on policy, col: 7, lines: 28-30), the communications session by causing a layer-2 change (Access interface can be Layer-2, col: 14, line: 57) in a communications link used for the communications session, so that the communications session for the device supports a quality of service level other than the first quality of service level (When the policy decision is made and returned to RAN, RAN enforces the policy decision as indicated, col: 24, lines: 48-50). In addition Golden also discloses (Bandwidth manager also maps the user priority (depending QoS) so changes in Layer-2 frames are made to accomplish required QoS, col: 4, lines: 45-50).

Conclusion

The prior art made of record and not relied upon is considered pertinent to Applicant's disclosure.

- Melaku et al. (U.S. Pub/Patent # 2003/0074443) disclose: Last mile QoS broker for multiple access networks.
- Francis et al. (U.S. Pub/Patent # 7190668) disclose: Method of Anchoring flows.
- Amin et al. (U.S. Pub/Patent # 6714987) disclose: Architecture for an IP centric distributed network.
- Solomon et al. (U.S. Pub # 2003/0214905) disclose: Dynamic update of QoS set.
- Choksi et al. (U.S. Pub/Patent # 2005/0250509) disclose: Managing real-time bandwidth request in a wireless network.
- Chuah et al. (U.S. Pub/Patent # 6654808) disclose: Proving QoS in Layer-2 tunneling protocol networks.

Any response to this Office Action should be **faxed to (571) 273-8300 or mailed to:**

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401 Dulany Street
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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ketan Soni whose telephone number is (571) 270-1782. The Examiner can normally be reached on Monday-Thursday from 7:30am to 6:00pm.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Vu, Huy D. can be reached on 571-272-3155. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free) or 703-305-3028. If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist/customer service whose telephone number is (571) 272-2600.

Ketan Soni

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Oct 29, 2007.



HUY D. VU
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600